



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

S

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/272,439 03/19/99 HUGENROTH

J 60.298-227

EXAMINER

QM01/0329

THEODORE W OLDS
HOWARD & HOWARD
1400 NORTH WOODWARD AVENUE
SUITE 101
BLOOMFIELD HILLS MI 48304-2856

ART UNIT

PAPER NUMBER

3746

DATE MAILED:

03/29/00

2

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/272,439

Applicant(s)

HUGENROTH ET AL.

Examiner

Thuya Aung

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 1999 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____.

Art Unit: 3746

DETAILED ACTION

Drawings

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81. No new matter may be introduced in the required drawing.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "32" has been used to designate both a space (line 23 of page 6) and the suction chamber (line 7 of page 7). Reference character "48" has been used to designate both an opening (line 14 of page 7) and through passage (line 19 of page 7). Reference character "140" has been used to designate both a valve (line 9 of page 11) and the piston (line 12 of page 11).

Reference characters "34" (line 2-3 of page 7) and "36" (line 7 of page 7) have both been used to designate a protection device. Reference characters "46" (line 13 of page 7) and "48" (line 14 of page 7) have both been used to designate an opening. Reference characters "44" and "49" (Figure 2B) have both been used to point out as a valve housing (compare to Figure 2A and Figure 4).

Corrections are required.

Art Unit: 3746

Specification

The disclosure is objected to because of the following informalities:

1. "... the motor 30." (line 24 of page 6) should be -- a motor 30. --.
2. "... the valve spool 88..." (line 11 of page 9) should be -- a valve spool 30 --.
3. "... toward chamber 97." (line 13 of page 9) should be -- toward a second chamber 97. --.
4. A statement of referencing interchangeably between a tap, port, an opening, and/or closing passages is required. For example, "A tap 82..." (line 8 of page 9) and "...the opening 82 ..." (line 11 of page 9), and "A tap 92..." (line 11 of page 9), "A tap 98..." (line 15 of page 9" and "...closing passages 92 and 98." (line 18 of page 9) and "port 98" and "port 82" (line 5 of page 10).

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 and 13-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Rood et al. (5,452,989). Rood teaches a scroll compressor 20 (line 43 of column 3), where a first scroll member 24 is non-orbiting member and a second scroll member 30

Art Unit: 3746

is orbiting member (line 44-47 of column 3), compressor 20 (line 43 of column 3) comprising a motor 50 (line 45 of column 4) for driving said compressor element, a protection device 204 for said motor when a predetermined temperature is exceeded (line 42-49 of column 6). Rood teaches a housing 22 (line 44 of column 3) for enclosing said motor, a housing chamber 36 and/or 38 (line 1-2 of column 4), a compression chamber 34 (Figure 1 and line 62 of column 3), which is a discharge port (Figure 1 and 34 is referenced as discharge pocket), for compressing a refrigerant, and said refrigerant passing through said housing chamber to said compression chamber, such that said refrigerant cools said motor. Rood teaches a vent 200 (line 33 of column 6), which is placed in a non-orbiting scroll 24 of said scroll compressor (Figure 4) for selectively communicating a fluid from said compression chamber to said housing chamber and if conditions indicate that a loss of charge has occurred in a system associated with said compressor, said vent allowing gas at an elevated temperature to move into said housing chamber and contact said motor, and actuate said protection device. Rood teaches a valve is moveable dependent on the pressure difference (line 6-13 of column 6) between a suction tap and a tap to a compression chamber prior to discharge to selectively communicate said discharge pressure tap to said housing chamber.

Rood teaches a valve 48 (line 26 of column 4), 100 (line 2-5 of column 5), and/or 212 (line 46 of column 7) being held at a position allowing flow from a tap (Figure 1) from said at least one compression chamber selectively passes to said housing

Art Unit: 3746

chamber and said valve moving to a position blocking flow from said tap to said housing chamber if a pressure differential between the pressure in said compression chamber and said housing chamber exceeds a predetermined differential. Rood teaches a spring biases said valve (line 22-24 of column 5) and said valve selectively closes a tap to discharge pressure and allows flow both said compression chamber and a discharge pressure tap (Figure 4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rood in view of Ramsey et al (5,707,210). Rood teaches all the limitations of claims 1, 6, 18 and 19 but does not clearly include a temperature sensitive element is associated with said valve and a bi-metal composition. Ramsey teaches a temperature sensitive element is associated with said valve 134 (line 15-19 of column 5) and a bi-metal composition 146 (line 56-61 of column 5). Ramsey also teaches protection from excessive discharge temperature, caused by (a) loss of working fluid charge, (b) a blocked condenser fan in a refrigeration system, (c) a low pressure condition or a blocked suction condition (d) an excess discharge pressure condition for any reason

Art Unit: 3746

whatever (line 19-54 of column 1), to prevent the heat prevent (line 41-44 of column 1). One of ordinary skill in the art at the time of invention would have found it obvious to modify Rood's scroll compressor in view of Ramsey's temperature responsive valve because such a temperature responsive could advantageously prevent the heat build-up.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rood and Ramsey as applied to claims 1, 6, 18 and 19 above, and further in view of Osaki et al. (4,388,630). Rood and Ramsey teach all the limitation of claims 1, 6, 18 and 19 above except for a magnetic force that holds said valve. Osaki teaches a magnetic force that holds a valve (Figure 4, Figure 5 and line 12-43 of column 4). Osaki also teaches that the attraction force created by the magnets becomes small when the temperature becomes high due to the variation of the magnetic permeability of the temperature compensation element (line 36-39 of column 4). One of ordinary skill in the art at the time of invention would have found it obvious to modify Rood's scroll compressor in view of Osaki magnetic force type valve because the magnetic force type valve could directly communicate with the temperature protection device so that a better control of temperature responsive valve would have been achieved.

Art Unit: 3746

Conclusion

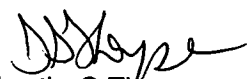
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuya Aung whose telephone number is 703-605-1140. The examiner can normally be reached on Mon - Fri: 7 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 703-308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3588 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.



ta
March 23, 2000



Timothy S. Thorpe
Supervisory Patent Examiner
Group 3700